



Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Honey Creek

Water Body Segment at a Glance:

County: Henry
Nearby Cities: Clinton
Length of impairment: 3 miles
Pollutant: Sulfate
Source: Reliance Shop Abandoned
Mine Lands



State map showing location of watershed

TMDL Priority Ranking: EPA established TMDL 2006

Description of the Problem

Beneficial uses of Honey Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Human Health Protection (Fish Consumption)

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

- Sulfate and chloride are linked together in Missouri's Water Quality Standards, 10 CSR 20-7.031(4)(L)1. There it states the concentration of chloride plus sulfate shall not exceed 1,000 milligrams per liter (mg/L) or parts per million for protection of aquatic life.

Background Information and Water Quality Data

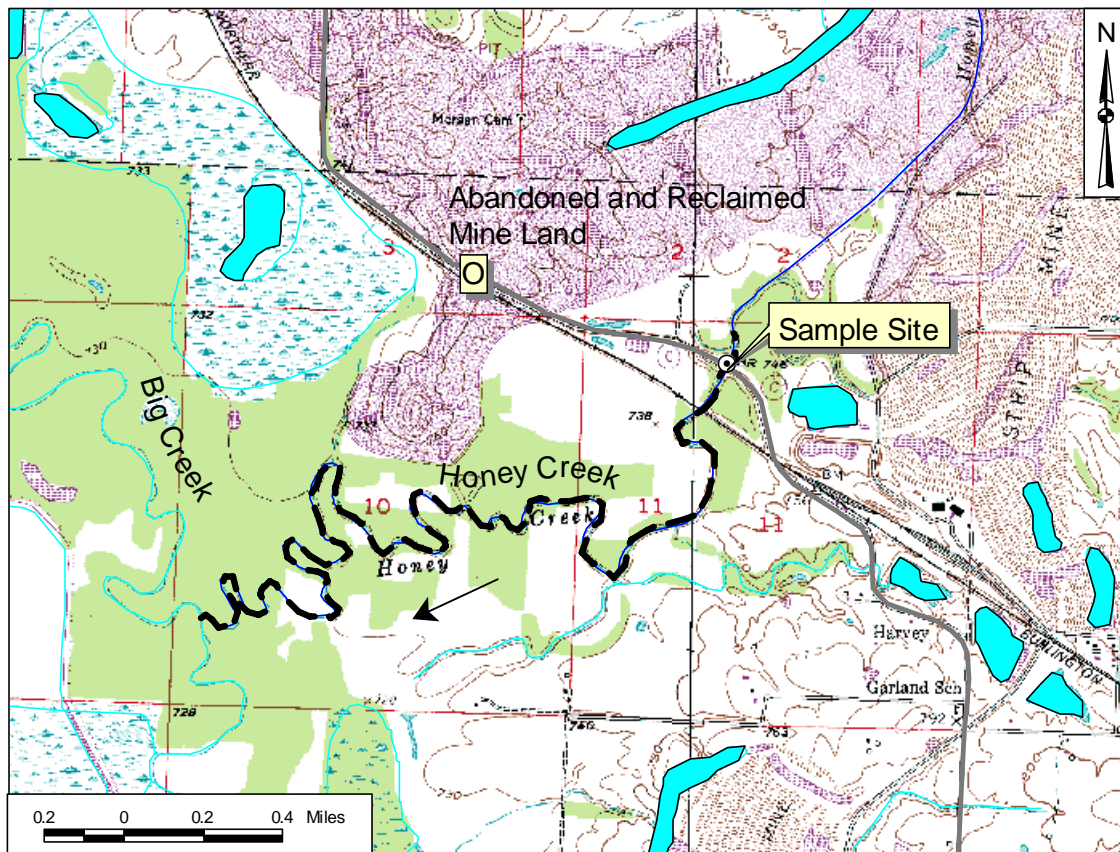
Sulfide minerals, commonly found in coal and the surrounding rock, oxidize when exposed to the air and are subsequently dissolved by groundwater. In many old coal mining areas, this weathering process results in large amounts of sulfate dissolved in groundwaters and in surface waters draining these mined lands. Freshwater aquatic life cannot tolerate large amounts of dissolved substances in water. The Missouri Water Quality Standard for dissolved substances is 1,000 mg/L of sulfate plus chloride. Levels of chloride in Missouri streams are typically much less than 100 mg/L so most dissolved substances problems are related to high levels of sulfate.

The Missouri Department of Natural Resources, Land Reclamation Program reclaimed several areas along Honey Creek in the 1980s and 1990s. These included the Nannemann project on 60 acres completed in 1986 at a cost of \$687,757, the Reliance Shop project on 72 acres at a cost of \$585,447, and the Honey Creek project on 32 acres at a cost of \$654,796.

Honey Creek was placed on the 303(d) list due to a few water quality measurements showing high levels of conductivity. Conductivity strongly correlates with the amount of sulfate and chloride in the water. Results of water quality monitoring on Honey Creek since the completion of these reclamation projects is shown. This data indicates Honey Creek is now in compliance with the state sulfate and chloride standard.

Even though Honey Creek is now meeting water quality standards, The US Environmental Protection Agency (EPA) established a TMDL for it on August 17, 2006. This was so that EPA and Missouri could meet the requirements of a lawsuit that specifies a certain number of TMDLs to be completed each calendar year.

Map Showing Sampling Site on Honey Creek, Henry County, Missouri



--- Impaired Segment

← Direction of Flow

Water quality data may be found on the next page.

Water Quality Data from Honey Creek at Hwy O, Henry County

Site Name	Year	Month	Day	SO4	Cl	SO4+Cl
Honey Cr. at Hwy O	1997	7		646	9	655
Honey Cr. at Hwy O	2000	8	4	260	10	270
Honey Cr. at Hwy O	2003	7	29	286	14	300
Honey Cr. at Hwy O	2003	12	30	119	13	132
Honey Cr. at Hwy O	2004	8	13	255	13	268
Honey Cr. at Hwy O	2004	9	29	216	13	229
Mean:				297	12	309
Water Quality Standard						1000

Source: Missouri Department of Natural Resources

For more information call or write:

Missouri Department of Natural Resources,
Water Protection Program

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